

**SELECTABLE REFLECTOR AND SUB-REFLECTOR
SYSTEM USING FLUIDIC DIELECTRICS**

ABSTRACT OF THE INVENTION

A selectable sub-reflector antenna system (100) comprises a main reflector unit (101), a sub-reflector unit (111) disposed apart from the main reflector unit and having at least one cavity (116), and at least one fluidic dielectric having a permittivity and a permeability. The system further comprises at least one composition processor (104) adapted for dynamically changing a composition of the fluidic dielectric to vary at least one among the permittivity and permeability in at least one cavity among a plurality of cavities and a controller (102) for controlling the composition processor to selectively vary at least one among permittivity and permeability in at least one cavity in response to a control signal (105).